REMARKS/ARGUMENTS

Claims 1-13, 15-23, 25-42, 44-53, 55-63, 85, 86 and 97-114 are pending. By this Amendment, the title and claims 1-5, 8-10, 12, 13, 16, 19, 32 and 62 are amended, claims 97-114 are added and claims 14 and 87-90 are canceled. Claims 24, 38, 43, 54 and 91-96 were canceled via Preliminary Amendment. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

In paragraph 1 of the Office Action, the Patent Office replies to Applicants' traversal of the Restriction Requirement. By this Amendment, claims 87-90 have been canceled.

In addition, new claims 97-114 are added, which subject matter is identical to that set forth in original claims 64-81. Applicants respectfully submit that no serious burden is presented to the Patent Office to examine and allow these claims since they were indicated as being allowable in Applicants' corresponding PCT application No. PCT/US03/036336. Applicants respectfully submit that no burden is present since Examiner Pham is handling both the PCT and U.S. applications.

In paragraph 3 of the Office Action, claims 1-5, 9, 10, 32-36, 40, 41 and 62 were rejected under 35 U.S.C. §102(b) over Yaginuma et al. (U.S. Patent No. 5,019,326). This rejection is respectfully traversed.

Claim 1, by this Amendment, is directed to an apparatus for printing and inspecting pellet-shaped articles comprising a conveyer mechanism structured to convey a plurality of pellet-shaped articles in a transport direction along a predetermined path, said conveyer mechanism including a plurality of rows of receiving pockets, each said row being configured to receive multiple ones of said pellet-shaped articles, each said row being oriented substantially transverse to the transport direction, a printing unit provided along the predetermined path and

structured to providing printing indicia to the plurality of pellet-shaped articles, and an inspection unit. The inspection unit is provided downstream of the printing unit along the predetermined path, the inspection unit including a first camera unit positioned adjacent a first side of the conveyer mechanism, the first camera unit being configured to sense the printing indicia provided to each of the plurality of pellet-shaped articles, and a removal mechanism, downstream from the first camera unit, structured to individually remove at least a selected one of the plurality of pellet-shaped articles from at least a selected said row of the conveyer mechanism depending on whether the printing indicia is sensed by the first camera unit.

Yaginuma et al. does not teach or disclose this subject matter. In particular, Yaginuma et al. is directed to inspection equipment for inspecting nuclear fuel rods. Yaginuma et al. does not teach or disclose a conveyer mechanism including a plurality of rows with receiving pockets, each said row being configured to receive multiple ones of said pellet-shaped articles and being positioned transverse to the transport direction. Yaginuma et al.'s conveying mechanism includes roller pairs 62a and 62b (Figure 6), each of which does not include a plurality of rows of receiving pockets, as recited in claim 1.

In addition, Yaginuma et al. does not teach or suggest a printing unit provided along the predetermined path and structured to provide printing indicia to the plurality of pellet-shaped articles. Further, Yaginuma et al. does not teach or suggest an inspection unit provided downstream of the printing unit along the predetermined path and including a first camera unit and a removal mechanism, as recited in claim 1. Yaginuma et al.'s first camera unit is not configured to sense the printing indicia provided to each of the plurality of pellet-shaped articles. In addition, Yaginuma et al. does not teach a removal mechanism structured to individually remove at least a selected one of plurality of pellet-shaped articles from at least a selected said

row of the conveyer mechanism depending on whether the printing indicia is sensed by the first camera unit.

Dependent claims 2-5, 9 and 10 are patentable by virtue of their dependency on claim 1, in addition to the further features they recite.

With regard to independent claim 32, Yaginuma et al. does not teach or suggest a conveyer mechanism including a plurality of carrier bars, each carrier bar being structured to simultaneously convey a plurality of pellet-shaped articles along a predetermined path. Yaginuma et al. does not teach that each carrier bar is structured to simultaneously convey a plurality of pellet-shaped articles since Yaginuma et al. teaches the conveying of nuclear fuel pellets one by one.

In addition, Yaginuma et al. does not teach a first camera unit positioned adjacent a first side of the conveyer mechanism, the first camera unit being configured to simultaneously sense a first predetermined characteristic of the plurality of pellet-shaped articles. Because Yaginuma et al. conveys and inspects only a single nuclear fuel pellet at a time, the first camera unit is not configured to simultaneously sense a first predetermined characteristic of the plurality of pellet-shaped articles.

Further, Yaginuma et al. does not teach a removal mechanism structured to individually remove at least a selected one of the plurality of pellet-shaped articles from at least a selected one of the plurality of carrier bars, as recited in claim 32. Yaginuma et al. does not teach that each carrier bar simultaneously conveys a plurality of pellet-shaped articles, and that the removal mechanism is structured to individually remove a selected one of the pellet-shaped articles from at least a selected one of the plurality of carrier bars.

Dependent claims 33-36, 40 and 41 are patentable by virtue of the dependency on claim 32, in addition to the further features they recite.

Independent claim 62 is directed to a method of inspecting pellet-shaped articles structured for use with a conveyer mechanism including a plurality of carrier bars, each carrier bar structured to convey a plurality of pellet-shaped articles along a predetermined path. Yaginuma et al. does not teach that each carrier bar is structured to convey a plurality of pellet-shaped articles. Further, Yaginuma et al. does not teach a method comprising simultaneously sensing at least one side of the plurality of pellet-shaped articles provided on one of said carrier bars for a predetermined characteristic. Yaginuma et al. does not teach the simultaneous sensing of a plurality of pellet-shaped articles provided on one of said carrier bars.

In addition, Yaginuma et al. does not teach individually removing at least a selected one of the articles from one of the carrier bars depending on whether the characteristic is sensed.

Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 6-8, 11-23, 25-31, 37, 39, 42, 44-53, 55-61, 63, 85 and 86 were rejected under 35 U.S.C. §103(a) over Yaginuma et al. in view of Ainsworth et al., Ahmed et al. and Yaginuma et al. (U.S. Patent No. 5,652,432). This rejection is respectfully traversed.

With respect to independent claim 17, none of the four references cited in the rejection teaches or suggests that the conveyer mechanism has at least one throughhole configured to allow the first camera unit to sense the first side of the pellet-shaped article that is visible through the throughhole, as recited in claim 17. This feature is not addressed in the Office Action, and it appears to have been the reason why the corresponding claims in the PCT application were allowed by Examiner Pham.

Independent claim 48 is directed to a pellet-shaped article inspection unit comprising a first camera unit positioned adjacent a first side of the conveyer mechanism, the first camera unit being configured to sense a first predetermined characteristic of the pellet-shaped article and a second predetermined characteristic of the pellet-shaped article, the first and second predetermined characteristics being different from one another. Claim 48 has not been specifically addressed in the Office Action.

Independent claim 84 is directed to an apparatus for inspecting a predetermined characteristic of a pellet-shaped article comprising a conveyer loop to convey at least one row of articles along a transport path, an inspection unit to compare the predetermined characteristic against a given standard, and a reject system to forcibly eject from the conveyer selected ones of the articles which are acceptable, and to passively allow rejected ones of the articles to remove from the conveyer.

None of the four references applied against claim 85 discloses such a system. For example, Yaginuma et al. ('326) does not teach a row of articles. Further, Yaginuma et al. ('326) teaches an inspection system in which a defective article is forcibly ejected once a predetermined characteristic is detected. Articles which are acceptable continue to be passively accepted by remaining on the conveyer. This is the opposite of what is set forth in claim 85, since claim 85 forcibly ejects from the conveyer selected ones of the articles that are acceptable, and passively allows rejected ones of the articles to be removed from the conveyer.

As explained in the present specification, e.g., solenoids which are only occasionally activated need more lead time than a solenoid which is continuously and repeatedly activated. In other words, it is easier and faster to deactivate a solenoid for a rejected article than it is to activate a solenoid for a rejected article. Further, it is also desirable to passively reject so that a

failed solenoid will not cause the system to output failed products. See paragraph [00118] of the original application.

Claim 86 is a method analog of claim 85 and is similarly allowable.

Dependent claims 6-8, 11-16, 18-23, 25-31, 37, 39, 42, 44-47 and 49-53, 55-61 and 63 are patentable by virtue of their dependency on the independent claims from which they depend, and for the further features they recite.

Reconsideration and withdrawal of the rejection are respectfully requested.

In view of the above amendments and remarks, Applicants respectfully submit that all the claims are patentable and that the entire application is in condition for allowance.

Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, he is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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